Interoperability

The Army Battle Command Systems in Operation Enduring Freedom and Operation Iraqi Freedom

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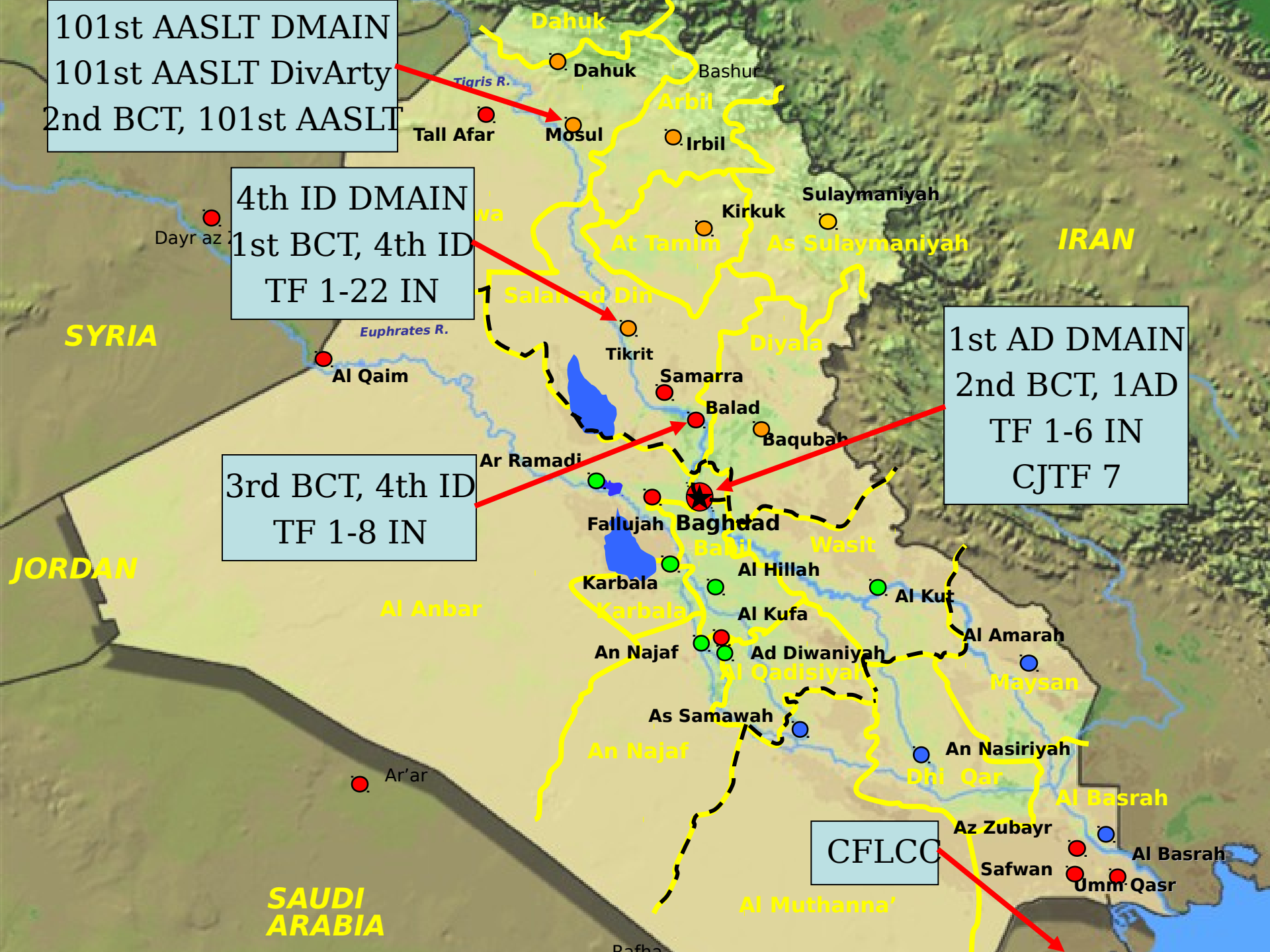
DOT&E, Strategic and C3I Systems

Background and Initial Insights

- Findings of an operational assessment of the Army C2 systems in use in OEF/OIF.
  - Maneuver, Intel, Fire Support, Air Defense, Combat Support
  - Network management, Topographic support, Meteorological support
  - Blue Force Tracking (BFT)
- Twenty-one joint and Army headquarters surveyed:
  - Two CJTF HQs, four division HQs, seven brigade HQs and eight battalion HQs
- System use varied from moderate to none
  - Surrogate systems were being employed in several cases
  - BFT was widely used and considered essential
- Principle reasons for low use:


101st AASLT DMAIN
101st AASLT DivArty
2nd BCT, 101st AASLT
4th ID DMAIN
1st BCT, 4th ID
TF 1-22 IN
3rd BCT, 4th ID
TF 1-8 IN
1st AD DMAIN
2nd BCT, 1AD
TF 1-6 IN
CJTF 7
CFLCC
Dahuk
Dahuk
Bashur
Tigris R.
Arbil
Tall Afar
Mosul
Irbil
Sulaymaniyah
Kirkuk
At Tamim
As Sulaymaniyah
IRAN
Dayr az Z
Salah ad Din
SYRIA
Euphrates R.
Tikrit
Diyala
Al Qaim
Samarra
Balad
Baqubah
Ar Ramadi
Fallujah
Baghdad
Wasit
JORDAN
Babil
Al Hillah
Karbala
Al Kut
Al Anbar
Karbala
Al Kufa
Al Amarah
An Najaf
Ad Diwaniyah
Al Qadisiyah
Maysan
As Samawah
An Najaf
An Nasiriyah
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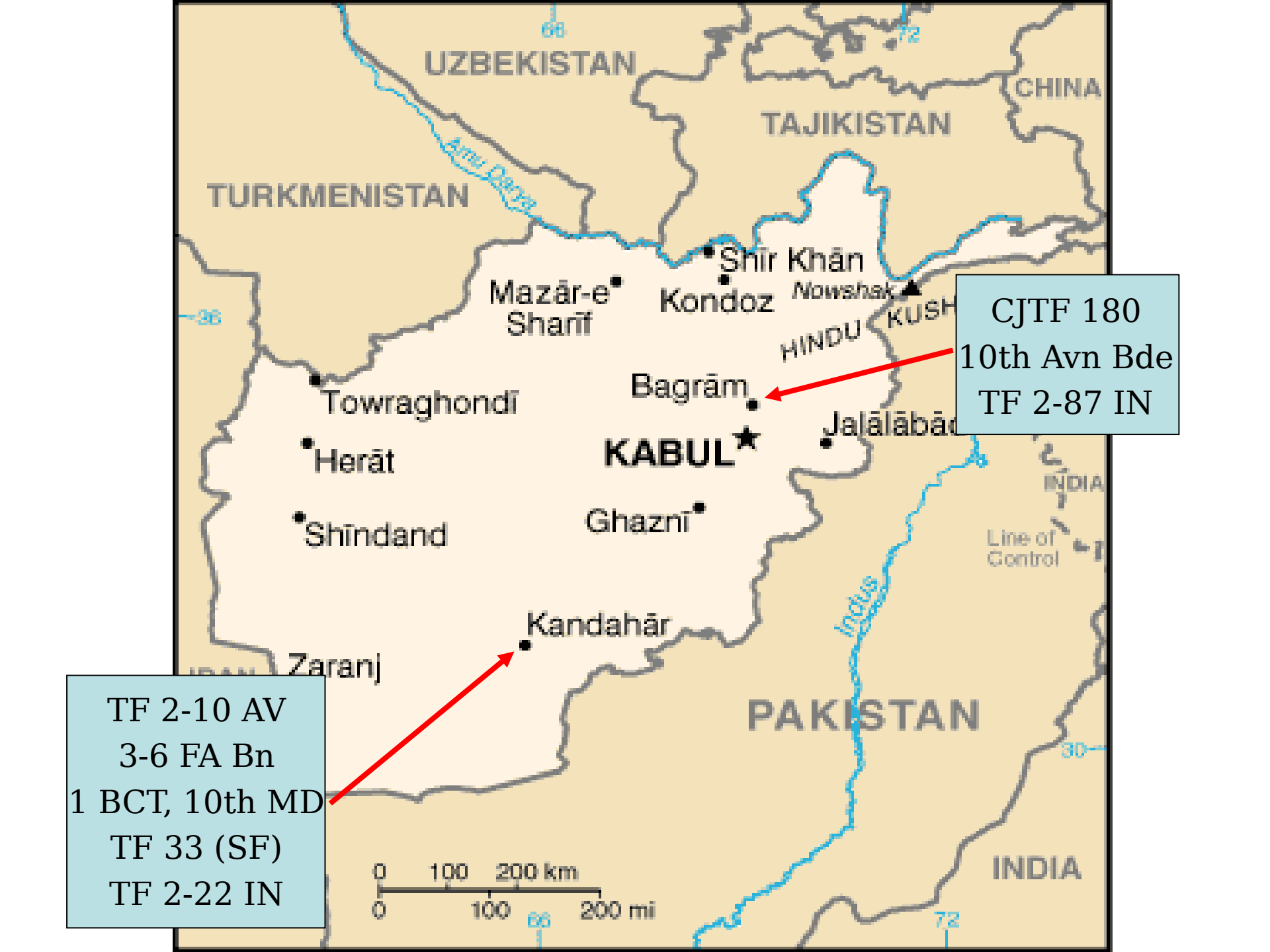
Safwan
Umm Qasr
SAUDI ARABIA
Al Muthanna'


UZBEKISTAN
CHINA
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TURKMENISTAN
Amu Darya
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HINDU KUSH
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Bagrām
Jalālābād
KABUL
Herāt
Ghaznī
Shīndand
INDIA
Line of Control
Indus
Kandahār
Zaranj
PAKISTAN
INDIA
0 100 200 km
0 100 200 mi
CJTF 180
10th Avn Bde
TF 2-87 IN
TF 2-10 AV
3-6 FA Bn
1 BCT, 10th MD
TF 33 (SF)
TF 2-22 IN

Observations

- **Fire Support**
  - Proved a reliable system, primarily used for fire planning and targeting at brigade and higher.
  - Used other systems to compute firing solutions.
- **Air Defense**
  - Good and reliable capability present for tracking Red and Blue aircraft
  - Provided situational awareness in TOCs at division, brigade and battalion levels.
- **Intel**
  - Users expressed a desire for more

Observations

- **Maneuver**
  - Not used by all units
  - TOC server
  - Limited blue picture and overlays
  - Rarely used for blue picture to conduct operations at CJTF and brigade level
  - Not used at the battalion level
- **Combat Support**
  - In some locations, not used, replaced by commercial products or SIPRNET and web-based reporting.
  - In other locations, used to track logistics convoys.

Observations

- **Network Management**
  - Network planning only at brigade level, not division.
  - Primarily used for situational awareness.
- **Meteorological Support**
  - Not used. SIPRNET and USAF weather sensors used instead.
- **Topographic Support**
  - Provides decision makers with the products required.
  - Operators cited difficulties in operating, transporting and maintaining the system.

BFT Observations

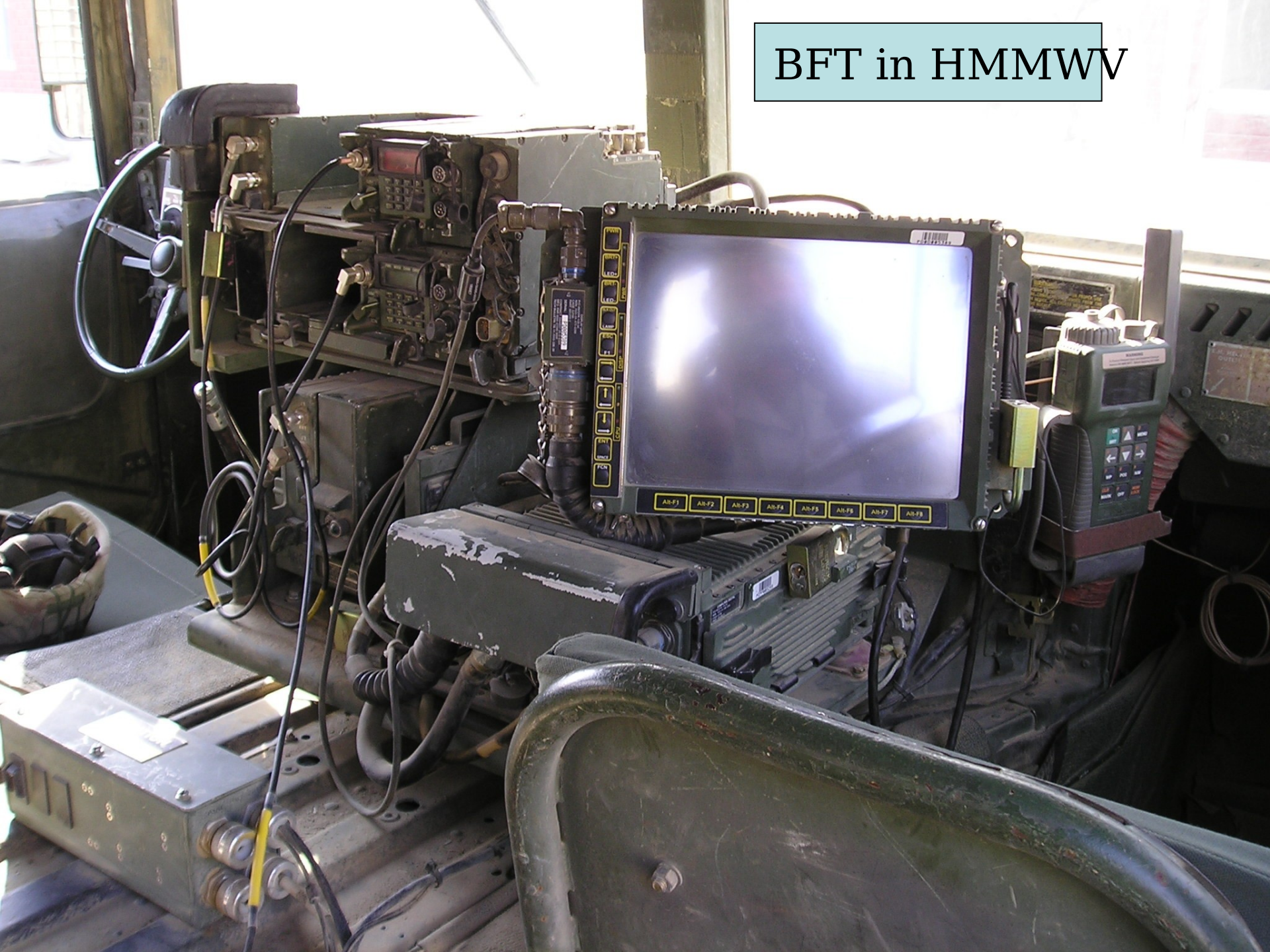
- Reported to work well and reliably.
- Commanders and staffs relied heavily upon system for Blue force situational awareness and navigation.
- Widely used everywhere fielded, including aviation.
- Still some issues with some vehicle installation locations:
  - Bradley (keyboard, coax access

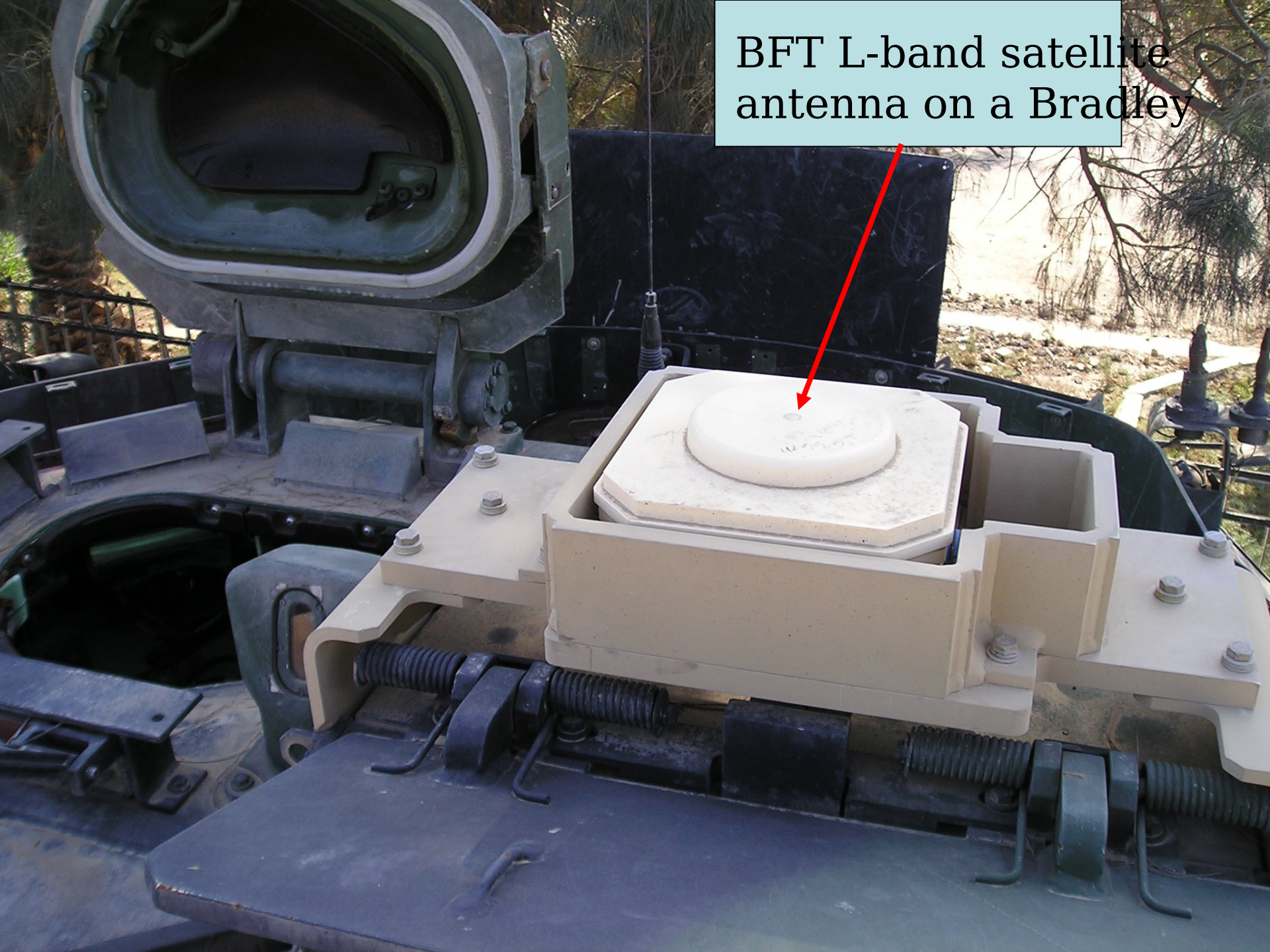
Other Observations

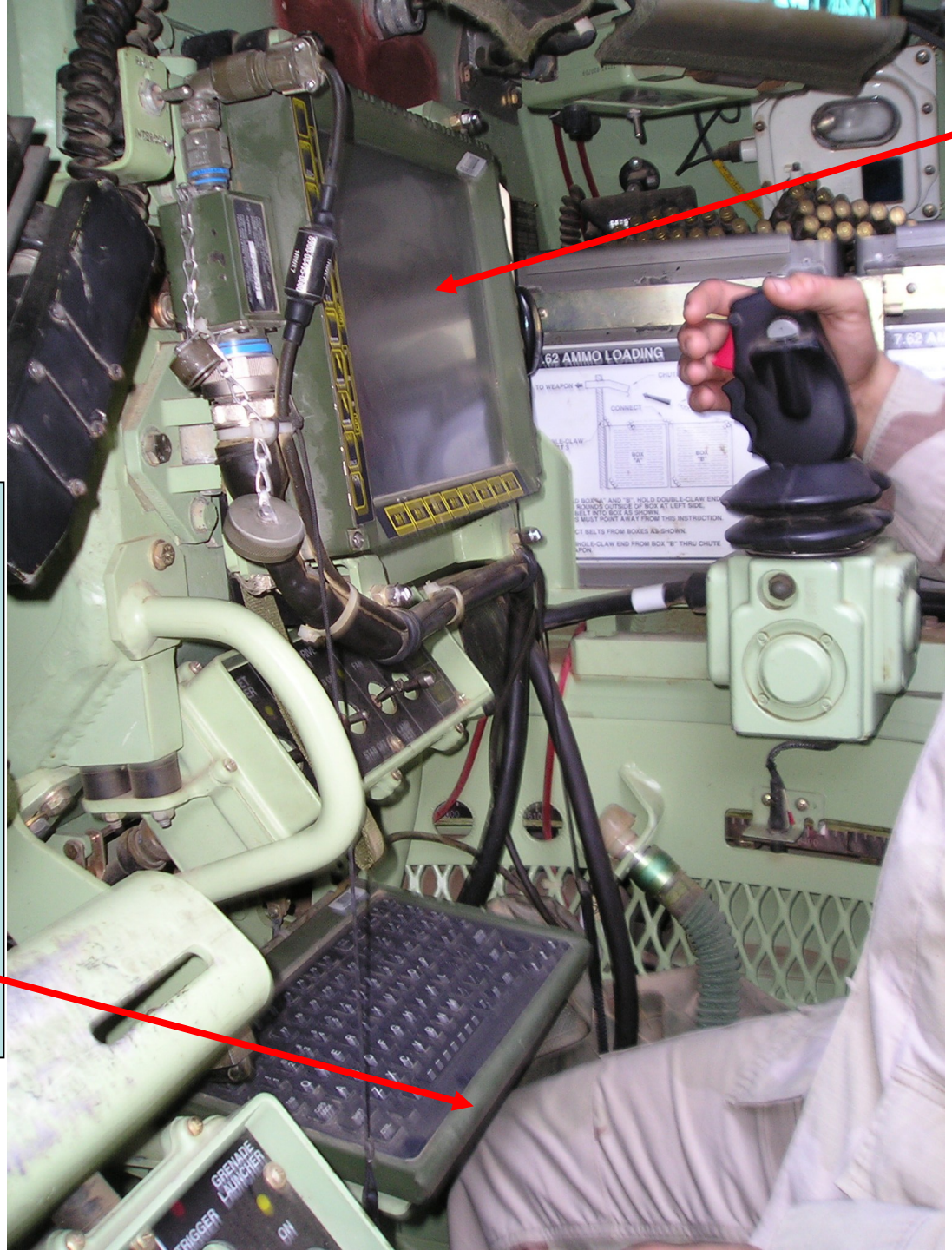
- A combination of digital and analog methods works best
  - FM voice and digital messages
  - Paper maps and digital displays
  - MSE and SIPRNET
- Training
  - NET during the “Rapid Fielding” of new digital equipment was ineffective and in some cases disruptive to battle staff procedures.

BFT in carrying case, light infantry Bn TOC
UNCLASSIFIED
CAUTION
HHC CDR
62

BFT in HMMWV




BFT L-band satellite
antenna on a Bradley



Display interferes with rapid clearing of coax jams

Keyboard location painful to vehicle commander as he rides and observes

Location in troop UH60. Not useable by any crew member here

BFT in the CH47
Crew chief’s sea

Summary

- Systems were generally under-utilized, with many surrogate systems used:
- Low use insights:
  - system performance/interoperability limitations
  - lack of familiarity or adequate training on the systems
- BFT was an exception to the above, used widely throughout theater.
- Overwhelming desire was to have a single COP with Blue, Red

Thoughts for the Future

- Achieving Interoperability after the stovepipes are built doesn’t work
  - Management issue, not a technology issue
    - Synchronize requirements, acquisition, budget
    - No longer program-centric approach to acquisition
  - Capability based acquisition
    - Emphasis on mission capability
- T&E of the system of systems
  - Information exchange requirements (IERs) are too limiting
  - Move away from application to application interoperability to data interoperability
- Assess Interoperability at the Tip of the